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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,837

07/12/2005

Uno Henningsson

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ERICSSON INC.
6300 LEGACY DRIVE
M/S EVR 1-C-11
PLANO, TX 75024

EXAMINER

BOES, TERENCE

ART UNIT

PAPER NUMBER

3682

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/541,837

Applicant(s)

HENNINGSSON ET AL.

Examiner

Terence Boes

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Referring to Figure 1, the examiner does not understand how the tuner (15) can translate into the resonator (16). The device appears to function similar to a ball screw, however, there is no apparent structure restricting the rotation of 15, 141, or 142, relative to the resonator, which would allow for translation of tuner (15). The tuner as shown in Figure 1 would rotate with motor (11), threaded axis (13), and first and second screw parts (141,142). How can the tuner translate through the resonator without structure restricting the tuners rotation?

Art Unit: 3682

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites the limitation "the threaded axis" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "the axis" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5, 8-11, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Newell (USP 3,169,407).

Newell discloses:

Re clm 1

- A cavity (8) for insertion of a threaded axle along which the screw arrangement (see figure 1) is movably arranged.
- A first resilient part (see fig 7, 42) to eliminate an axial allowance

Art Unit: 3682

- A second resilient part (51, bolt prevents flange 42 from moving radially relative to housing 41) to eliminate a radial allowance
- The screw cavity at its inside being equipped with semi-spheres (27) that follow the turn of the threads of the threaded axle (shaft 1).

Re clm 2

- Screw arrangement consists of a first part (1) and a second part (2)

Re clm 3

- The first part of the screw arrangement can be inserted into the second part (see fig. 1)

Re clm 5

- Whereby the first resilient part comprises an integrated part of the first part of the screw arrangement (the parts are considered integrated in that they cooperate with each other and function together).

Re clm 8

- Whereby the first part of the screw arrangement comprises one or more convex protrusions (4,5,6) and the second part of the screw arrangement comprises corresponding grooves (9) for insertion of the first part of the screw arrangement into the second part of the screw arrangement.

Art Unit: 3682

Re clm 9

- Whereby six semi-spheres (see figs. 1 and 2, there are two rows of three semi-spheres) are arranged inside of the screw arrangement cavity of the first and second part of the screw arrangement which follow one turn of the threaded axis (the examiner notes the "turn" is interpreted as a verb, therefore the semi-spheres are considered as following one turn of the threaded axis.)

Re clm 10

- Whereby the semi-spheres comprise a cross section that minimizes the contacting surface between semi-sphere and the threaded surface of the axis (C6/L15-20)

Re clm 11

- A threaded means (35) for fastening of a tuner object (37, 37 is broadly interpreted as a tuner object as it is capable of adjusting or tuning the rotational frequency of the shaft)

4. Claims 1-11, 13, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Naoi et al. (US 3,987,680).

Naoi discloses:

Re clm 1,13

- A cavity (see fig. 1, chamber is contained within 15) for insertion of a threaded axle inside of which the screw arrangement (see figs. 1,4) is movably arranged.

Art Unit: 3682

- A first resilient part (25) to eliminate an axial allowance
- A second resilient part (29) to eliminate a radial allowance
- The screw arrangement cavity at its inside being equipped with semi-spheres (23a, 23b) that follow the turn of the threads of the threaded axle (18).

Re clm 2,14

- Screw arrangement consists of a first part (19) and a second part (15)

Re clm 3,15

- The first part can be inserted into the second part (see fig. 1)

Re clm 4,16

- Whereby the first resilient part comprises a separate spring (25).

Re clm 5,17

- Whereby the first resilient part comprises an integrated part of the first part of the screw arrangement (the parts are considered integrated in that they cooperate with each other and function together).

Re clm 6,18

- Whereby the second resilient part comprises at least one resilient tongue (see gear tooth on 29) that is arranged in parallel to the screw arrangement axis for insertion into corresponding grooves (see groove in 15 containing 29) of the second part of the screw arrangement.

Re clm 7,19

Art Unit: 3682

- Whereby an end of the resilient tongue (see gear teeth of 29) is equipped with a bulge (bulge is considered as tip of gear teeth) to secure a firm connection of the first and second part of the screw arrangement (see fig 1. bulge biases 27 which biases shaft 11 securing first part 19 to second part 15)

Re clm 8,20

- Whereby the first screw arrangement part comprises one or more convex protrusions (19 is circular and therefore has convex protrusions, i.e. each quadrant contains a convex protrusion) and the second screw part comprises corresponding grooves (the internal corners of 15 are considered to be corresponding grooves) for insertion of the first part of the screw arrangement into the second part of the screw arrangement.

Re clm 9,21

- Whereby six semi-spheres (see fig 7, A, B, C, D, E, F) are arranged inside of the screw cavity of the first and second part the first screw arrangement part which follow one turn of the threaded axis (the examiner notes the "turn" is interpreted as a verb, therefore the semi-spheres are considered as following one "turn" of the threaded axis.)

Re clm 10,22

- Whereby the semi-spheres comprise a cross section that minimizes the contacting surface between semi-sphere and the threaded surface of the

axle (see fig. 5, semi-spheres contact flat surfaces 32a, 32b minimizing the contacting surface to essentially a contact point)

Re clm 11,23

- A threaded means (see fig. 5, screw fastening 16 to 15 is considered a threaded means for fastening of a tuner object) for fastening of a tuner object.

Response to Arguments

5. Applicant's arguments filed 10/26/2006 have been fully considered but they are not persuasive. Applicant argues:

- a. Applicant has included a legible copy of cited foreign patent document, GB 1520420A.
 - i. In response, the examiner has been unable to locate said document within applicant submission.
- b. The tuner is fixably attached to the second part of the screw which prevents rotation of the tuner, a feature that would be well known by a person skilled in the art.
 - ii. In response, although the examiner agrees that the tuner (15) is fixably attached to the second part 142; the examiner does not agree that this would prevent rotation of the tuner. The fact that these parts are fixed to each other merely results in the fact that the parts can rotate with each other, or conversely be fixed (not rotate) together. Since none of the tuner, first screw part, or second screw part is fixed against rotation, the

tuner is free to rotate with the threaded axle. Since the tuner is free rotate with the axle, the tuner would not translate within the resonator.

c. Newell does not disclose semi-spheres as recited in claim 1.

iii. In response, the examiner refers applicant to Newell figures 5 and 6 reference character 27, which clearly discloses semi-spheres.

d. Naoi discloses balls but lacks the semi-spheres recited in claims 1 and 13.

iv. In response, the examiner agrees that Naoi et al. discloses balls and further asserts that a ball is a semi-sphere connected to a hemispherical body, therefore Naoi discloses semi-spheres. Furthermore, since only half each ball is disposed within each groove, Naoi discloses "semi-spheres that follow the turn of the threads of the threaded axle" as claimed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

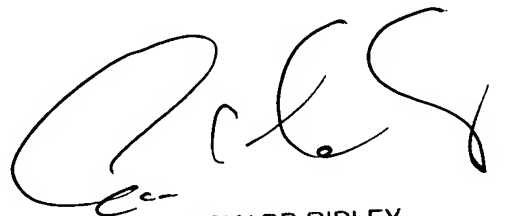
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terence Boes whose telephone number is (571) 272-4898. The examiner can normally be reached on Monday - Friday 9:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3682

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TB
12/27/06



RICHARD RIDLEY
SUPERVISORY PATENT EXAMINER